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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,260	12/19/2001	Carsten Driesner	30014200.1018	7197

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EXAMINER

HA, THANH T

ART UNIT	PAPER NUMBER
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2194

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

87

Office Action Summary

Application No.

10/021,260

Applicant(s)

DRIESNER ET AL.

Examiner

Ha Thanh

Art Unit

2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/19/2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-35 are pending in the application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - a. The following terms lack antecedent basis:
 - i. "Said number" indicated in said synchronization call" – claim 1.
 - b. The following claim language is indefinite:
 - i. As to claim 1, lines 2-3, it is unclear what system receiving a plurality of service calls (i.e. is it server or client system?).

Priority

3. Acknowledgment is made of applicant's claim for foreign priority based on application EP 00128214.4 filed on December 22, 2000. It is noted, however, that applicant has not filed a certified copy of the EP 00128214.4 application as required by 35 U.S.C. 119(b). Correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishihara et al. (hereinafter Nishihara) (U.S. Patent 6026427), in view of Shaylor (EP 0 955 584).
5. Nishihara and Shaylor were cited by applicant in the IDS filed on 12/19/2001.
6. As to claim 1, Nishihara teaches the invention substantially as claimed including a method in a data processing system for synchronizing calls at a client in a server and client system, comprising the steps of:
 - a. receiving a synchronization call from the server, said synchronization call indicating that one of said plurality of threads executed at the server has changed and indicating a number of service calls generated by said plurality of threads at the server prior to the thread change [see Fig. 4 and col. 3, lines 31-59]; and
 - b. placing at least one of said service calls associated with said synchronization call into a wait position, when said number indicated in

said synchronization call and said number of service calls executed at the client prior to receiving said synchronization call differ [see Fig. 4 & col. 3, line 32-col. 4, line 23].

7. Nishihara does not specifically teach receiving a plurality of service calls generated by a plurality of threads executed at the server. However, Shaylor teaches receiving a plurality of service calls generated by a plurality of threads executed at the server [page 2, paragraph 0003].
8. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teaching of Shaylor and Nishihara because Shaylor's teaching of receiving service calls would initiate the data processing service from the client.
9. As to claim 2, Nishihara does not specifically teach wherein said service calls are associated with said synchronization call by one of including respective identifiers into said at least one of said synchronization call and said service calls, and indicating one of a specific reception sequence and order of service of said service calls and said at least one synchronization call at the client. However, Shaylor teaches synchronized thread is associated with at least one service identified by an identification, also he discloses a reception sequence ("entry sequence") and an order of service ("lock stack") [page 2, paragraph 8].

10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teaching of Shaylor and Nishihara because Shaylor's teaching of using the identification and reception sequence and an order of service would improved the performance of the system by organizing the order of service and associate the service call with synchronization call therefore be able to thread synchronization.

11. As to claim 3, Nishihara teaches wherein said receiving steps include receiving a first call sequence of a plurality of call sequences from the server, said first call sequence including a first synchronization call and at least one service call from a first thread, said first synchronization call including a first server call counter value indicating a first number of service calls executed at the server prior to the first synchronization call [see Fig. 4 and col. 3, line 31-col. 4, line 23];

- a. said method further comprising the step of:
 - i. comparing said first server call counter value with a client call counter value, said client call counter value indicating a second number of service calls executed at the client prior to receiving said first synchronization call [see Fig. 5 and col. 4, lines 24-39]; and
 - ii. one of:
 - 1. placing said first call sequence into a wait position, if said client call counter value and said first server current call

counter value differ [see Fig. 4 & col. 3, line 32-col. 4, line 23].

2. As to claim 4, Nishihara teaches wherein said service calls are generated asynchronously [col. 1, line 64-col. 2, line 4].
3. As to claim 5, Nishihara teaches the method according to claim 3, further comprising the steps of:
 - a. determining whether a second call sequence in a wait position is available, said second call sequence including a plurality of service calls from a second thread executed at the server and a second synchronization call including a second server call counter value indicating a third number of service calls executed at the server prior to said second synchronization call [see Fig. 5 & col. 24-39];
 - b. wherein if said second call sequence in a wait position is not available, waiting to receive further service calls and synchronization calls [see Fig. 6 & col. 4, lines 40-56];
 - c. wherein if said second call sequence is available, determining that said second server call counter value coincides with said client call counter value, and executing said third number of service calls of said second call sequence and incrementing said client counter value for each executed third number of service calls [col. 4, lines 24-39].

4. As to claim 6, Nishihara teaches waiting for a third call sequence to be received from the server unit, the third call sequence including a third synchronization call including a third server call counter value coinciding with said client call counter value [col. 4, lines 34-39].
5. As to claim 7, Shaylor teaches wherein said call sequences are received as groups included into packets from the server, each group being generated upon one of a timer signal at the server, a synchronous call at the server, and a synchronization call at the server [see Fig. 7 & page 5, paragraph 27].
6. As to claim 8, Shaylor teaches wherein said synchronization call and said service calls are received in an arbitrary order [page 5, paragraph 29].
7. As to claim 9, Nishihara teaches wherein said service calls from said plurality of threads at the server are executed in corresponding threads at the client [col. 1, lines 44-55].
8. As to claim 10, Nishihara teaches wherein said first server call counter value indicates a total number of service calls at the server executed prior to a current service call and requires communication with the client ["number of waited threads", col. 2, lines 20-23]; and wherein said client call counter value indicates

a total number of service calls executed at the client and involves communication with the server ["number of threads signaling to the semaphores", col. 2, lines 20-23].

9. As to claim 11, Nishihara does not specifically teach wherein each of said service calls from the server includes at least one of:

- a. information on processing results from the server ["signal or broadcast the condition variable", col. 1, lines 44-55].

10. As to claim 12, Nishihara teaches the invention substantially as claimed including a method in a data processing system for synchronizing calls at a server in a server and client system, comprising the steps of:

- a. generating a synchronization call when a thread of said plurality of threads executed at the server changes, said synchronization call indicating a number of service calls generated by said plurality of threads at the server prior to the thread change [see Fig. 4 & col. 3, lines 31-59].

12. Nishihara does not specifically teach transmitting a plurality of service calls generated by a plurality of threads at the server to a client and transmitting synchronization call to the client to allow the client to synchronize a service call execution. However, Shaylor teaches transmitting a plurality of service calls generated by a plurality of threads at the server to a client and transmitting

synchronization call to the client to allow the client to synchronize a service call execution. [page 2, paragraph 0003].

13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teaching of Shaylor and Nishihara because Shaylor's teaching of transmitting service call and synchronization call would initiate the data processing service from the server.

11. As to claim 13, this claim corresponds to claim 2 above. Therefore, it is rejected for the same reason as to claim 2 above.

12. As to claim 14, Nishihara teaches wherein said service calls are generated asynchronously [col. 1, line 64-col. 2, line 8].

13. As to claim 15, Nishihara teaches the method according to claim 12, further comprising the steps of:

- a. generating a current service call by a first thread executed at the server [see Fig. 5 & col. 4, lines 26-27, "thread 1 (CondBroadcast)"];
- b. determining a first thread identifier of a first thread and comparing said first thread ID with a second thread identifier of a second thread which issued a service call preceding said current service call [col. 4, lines 27-30];

- c. wherein, if said first thread identifier and said second thread identifier differ, generating a first synchronization call including a server call counter value indicating a number of service calls executed at the server prior to said current service call and transmitting said first synchronization call to the client, for enabling the client to synchronize an execution of a plurality of service calls from at least said first thread and said second thread [see Fig. 4 & col. 3, lines 31-39]; and
 - d. counting said current service call using said server call counter value if said first thread identifier and said second thread identifier do not differ [col. 3, lines 31-39].
- 14. As to claim 16, Shaylor teaches wherein a plurality of service calls from said first thread and said synchronization call comprise a call sequence; and wherein said call sequences are received as groups included into packets from the server, each group being generated upon one of a timer signal at the server, a synchronous call at the server, and a synchronization call at the server [see Fig. 7 & page 5, paragraph 27].
- 15. As to claim 17, Shaylor teaches the method according to claim 15, wherein said synchronization call includes said second thread identifier of said second thread, and said number of service calls include a thread identifier of each thread generating said service call; and wherein said synchronization call and said

number of service calls are transmitted to the client in an arbitrary order [see Fig. 7 & page 5, paragraph 27].

16. As to claim 18, Nishihara teaches The method according to claim 15, wherein said service calls from said plurality of threads at the server are executed in corresponding threads at the client [col. 1, lines 44-55].

17. As to claim 19, Nishihara teaches The method according to claim 15, wherein said server call counter value indicates a total number of service calls requiring communication with the client executed at the server, prior to the current service call ["number of waited threads", col. 2, lines 20-23].

18. As to claim 20, Nishihara teaches The method according to claim 12, wherein each service call from the server includes at least one of:

- a. information on processing results from the server ["signal or broadcast the condition variable", col. 1, lines 44-55].

19. As to claim 21, Nishihara teaches wherein a synchronization call is further generated upon an occurrence of one of the group comprising: a timer signal [col. 2, lines 42-43]; and a synchronous call [col. 2, lines 4-6 & col. 2, line 64-col. 3, line 4].

20. As to claim 22, Nishihara teaches a method in a data processing system for synchronizing calls in a client and server system, the method comprising the steps of:

- a. generating a synchronization call at the server, said synchronization call indicating that one of said plurality of threads executed at the server has changed and indicating a number of service calls generated by said plurality of threads at the server prior to the thread change [see Fig. 4 & col. 3, lines 31-59];
- b. placing at least one of said service calls associated with said synchronization call into a wait position, if said number indicated in said synchronization call and said number of service calls executed at the client prior to receiving said synchronization call differ [see Fig. 4 & col. 3, line 32-col. 4, line 23].

14. Nishihara does not specifically teach transmitting a plurality of service calls generated by a plurality of threads executed at the server to the client, transmitting said synchronization call to the client to allow the client to synchronize a service call execution, and receiving said synchronization call at the client. However, Shaylor teaches transmitting a plurality of service calls generated by a plurality of threads at the server to a client and transmitting synchronization call to the client to allow the client to synchronize a service call execution. [page 2, paragraph 0003].

15. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teaching of Shaylor and Nishihara because Shaylor's teaching of transmitting service call and synchronization call would initiate the data processing service from the server.
21. As to claim 23, this is a computer readable medium claim that corresponds to method claim 22. Therefore, it is rejected for the same reason as to claim 22 above.
22. As to claim 24, this claim corresponds to method claim 2 above. Therefore, it is rejected for the same reason as to claim 2 above.
23. As to claim 25, Nishihara teaches The method of synchronizing calls according to claim 24, wherein said receiving step includes receiving a first call sequence of a plurality of call sequences from the server, said first call sequence including a first synchronization call and at least one service call from a first thread, said first synchronization call including a first server call counter value indicating a first number of service calls executed at the server prior to the first synchronization call [see Fig. 4 & col. 3, line 31-col. 4, line 23];
- a. said method further comprising the step of:

- i. comparing said first server call counter value with a client call counter value, said client call counter value indicating a second number of service calls executed at the client prior to receiving said first synchronization call [see Fig. 5 & col. 4, lines 24-39]; and
- ii. one of:
 1. placing said first call sequence into a wait position, if said client call counter value and said first server current call counter value differ [see Fig. 4 & col. 3, line 32-col. 4, line 23].

24. As to claim 26, Nishihara teaches The method according to claim 24, wherein said service calls are generated asynchronously [col. 1, line 64-col. 2, line 4].

25. As to claim 27, Nishihara teaches The method according to claim 26, further comprising the steps of:

- a. determining whether a second call sequence in a wait position is available, said second call sequence including a plurality of service calls from a second thread executed at the server and a second synchronization call including a second server call counter value indicating a third number of service calls executed at the server prior to said second synchronization call [see Fig. 5 & col. 24-39];

- b. wherein if said second call sequence in a wait position is not available, waiting to receive further service calls and synchronization calls [see Fig. 6 & col. 4, lines 40-56]; and
- c. wherein if said second call sequence is available, determining that said second server call counter value coincides with said client call counter value, and executing said third number of service calls of said second call sequence and incrementing said client counter value for each executed third number of service calls [col. 4, lines 24-39].

26. As to claim 28, Nishihara teaches The method of according to claim 27, further comprising the step of: waiting for a third call sequence to be received from the server unit, the third call sequence including a third synchronization call including a third server call counter value coinciding with said client call counter value [col. 4, lines 34-39].

27. As to claim 29, Shaylor teaches the method according to claim 26, wherein said call sequences are received as groups included into packets from the server, each group being generated upon one of a timer signal at the server, a synchronous call at the server, and a synchronization call at the server [[see Fig. 7 & page 5, paragraph 27].

28. As to claim 30, Shaylor teaches the method according to claim 26, wherein said synchronization call and said service calls are received in an arbitrary order [page 5, paragraph 29].

29. As to claim 31, Nishihara teaches The method according to claim 24, wherein said service calls from said plurality of threads at the server are executed in corresponding threads at the client [col. 1, lines 44-55].

30. As to claim 32, Nishihara teaches The method according to claim 26, wherein said first server call counter value indicates a total number of service calls at the server executed prior to a current service call and requires communication with the client ["number of waited threads", col. 2, lines 20-23]; and
wherein said client call counter value indicates a total number of service calls executed at the client and involves communication with the server ["number of threads signaling to the semaphores", col. 2, lines 20-23].

31. As to claim 33, Nishihara teaches The method according to claim 24, wherein each of said service calls from the server includes at least one of:

- a. information on processing results from the server ["signal or broadcast the condition variable", col. 1, lines 44-55].

32. As to claim 34, Nishihara teaches A data processing system for synchronizing calls in a client and server system, the data processing system comprising:

- a. a client computer comprising:
 - i. a memory including a client program that receives a plurality of service calls generated by a plurality of threads executed at the server, that receives a synchronization call from the server, said synchronization call indicating that one of said plurality of threads executed at the server has changed and indicating a number of service calls generated by said plurality of threads at the server prior to the thread change, and that places at least one of said service calls associated with said synchronization call into a wait position, if said number indicated in said synchronization call and said number of service calls executed at the client prior to receiving said synchronization call differ [see Fig. 2 & col. 3, lines 5-12]; and
 - ii. a processor that runs said client program [see Fig. 1 & col. 2, line 56-col. 3, line 4];
 - iii. a server computer comprising:
 - 1. a memory including a server program that transmits a plurality of service calls generated by a plurality of threads at the server to the client, that generates a synchronization call when a thread of said plurality of threads executed at the server changes, said synchronization call indicating a

number of service calls generated by said plurality of threads at the server prior to the thread change, and that transmits said synchronization call to the client to allow the client to synchronize a service call execution [see Fig. 2 & col. 3, lines 5-26]; and

2. a processor that runs said server program [see Fig. 1 & col. 2, line 56-col. 3, line 4]; and
3. a network connecting said client computer and said server computer [see Fig. 1 & col. 2, line 56-col. 3, line 4].

33. As to claim 35, this is an apparatus claim that corresponds to method claim 22.

Therefore, it is rejected for the same reason as to claim 22 above.

Conclusion

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha Thanh whose telephone number is 571-272-7220. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2194

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SUE LAO
PRIMARY EXAMINER

Thanh Ha
Examiner
Art Unit 2194